



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

BBS Ltr. #611-75

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
September 16, 1975

Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operation-Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

SUBJECT: REPORT OF ABNORMAL OCCURRENCE PER SECTION 6.6.A OF THE TECHNICAL SPECIFICATIONS
FAILURE OF INTERMEDIATE RANGE MONITORS TO RESPOND

References: 1) Regulatory Guide 1.16 Rev. 1 Appendix A
2) Notification of Region III of U. S. Nuclear Regulatory Commission
Telephone: P. Johnson, 1430 hours on September 8, 1975
Telegram: J. Keppler, 1550 hours on September 8, 1975

Report Number: 50-249/75-41

Report Date: September 16, 1975

Occurrence Date: September 8, 1975

Facility: Dresden Nuclear Power Station, Morris, Illinois

IDENTIFICATION OF OCCURRENCE

Intermediate range monitors (IRM's) 11, 12, 14, 16, and 18 failed to respond during plant start-up. This occurrence represents a failure to meet limiting conditions for operation as defined in section 3.1 of the Technical Specifications.

CONDITIONS PRIOR TO OCCURRENCE

Unit-3 was in the start-up mode at a power level of <100 MWt. Control rod withdrawal was in progress.

DESCRIPTION OF OCCURRENCE

At approximately 0500 hours on September 8, 1975, the Unit-3 reactor was brought critical for plant start-up. As reactor power was increased it was noted that five of the eight IRM's did not appear to be responding. An immediate investigation

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indicated that the problem was intrinsic to the IRM's themselves rather than the local instrumentation, and a reactor shutdown was commenced. Control rod insertion began at 0510 hours, with all rods "in" by 0559 hours.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Unusual Service Conditions)

The IRM cables appeared to have been inadvertently pulled "open" by personnel working underneath the reactor vessel in cramped quarters. In addition, water was found in some of the cable connectors, which undoubtedly contributed to the IRM response problems. The water probably entered the cable connectors during the initial vessel "hydro" when control rod drive flanges were discovered leaking.

ANALYSIS OF OCCURRENCE

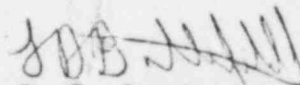
Although the IRM's would have been incapable of providing scram protection, the 15% average power range monitor (APRM) scram logic was in effect throughout the start-up mode. Furthermore, the rod worth minimizer was operable, preventing any deviation from the established rod withdrawal sequence. Consequently, plant personnel and the public were not endangered by this occurrence.

CORRECTIVE ACTION

The faulty IRM cables were replaced from the junction boxes in the drywell to the IRM connectors. In order to prevent a similar recurrence, the master start-up checklist will be revised to include a resistance check on Source Range Monitors (SRM's) and IRM's when major work has been performed under the reactor vessel. This final check will be performed prior to start-up, after all work under the vessel has been completed.

FAILURE DATA

There have been no previous IRM failures of this nature at Dresden.


B. B. Stephenson
Superintendent

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